MULTIMEDIA UNIVERSITY®

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2022/2023

BDS3024 – BUSNIESS INTELLIGENCE

(All sections/Groups)

8 JULY 2023
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 4 pages with 2 sections.
2. Attempt **ALL** questions in Section A and Section B. The distribution of the marks for each question is given.
3. Please write all your answers for Section A and Section B in the Answer Booklet provided.

SECTION A: Structured Questions (55 Marks)

QUESTION 1

(a) In a star schema, tables are classified as dimension or fact tables. Explain the difference in terms of concept. (5 marks)

(b) Using **ONE (1)** example of tables, explain the (a). (10 marks)

(Total: 15 marks)

QUESTION 2

(a) What does data profiling mean? And why is it important? (10 marks)

(b) Explain what pivoting a column does to data. (10 marks)

(Total: 20 marks)

QUESTION 3

(a) Explain the difference between merging and appending in power bi desktop. (10 marks)

(b) Using two tables as example, draw and explain the difference between merging and appending in power bi desktop. (10 marks)

(Total: 20 marks)

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SECTION B: Case Study (45 Marks)

Healthcare

Do you remember the times when your doctor wrote a prescription, and the handwriting was worse than your professor's making you wonder how the pharmacist could ever decipher it and dispense the correct drugs? If you recently went to a doctor, you may have noticed that information systems have had huge impact on the healthcare field; indeed, health informatics (or healthcare IS) has become a key focus of healthcare providers, insurance companies, and governments. Now, many doctors carry laptops or tablets, allowing them to digitally store any diagnosis, facilitating the sharing of information between the physician, nurses, and even your medical insurance provider. In addition to providing access to electronic patient records, the laptop or tablet provides your physician access to medical and drug information, as offered by the *Physician's Desk Reference* website (www.pdr.net), where your physician can obtain the latest information about drugs and clinical guidelines or check interactions between different drugs.

Information systems have also tremendously changed the diagnosis and monitoring of patients. For example, modern electroencephalogram (EEG) and electrocardiogram (EKG) devices heavily depend on computer technology, and, as the name implies computed tomography (used to produce images of internal organs) could not be performed without computer technology. Even diagnostic tests such as X-rays now use digital technology, allowing the doctor to digitally enhance the image for improved diagnosis or to electronically transmit the image to a remote specialist. Following the diagnosis of a serious condition, technology can even help in the operating room. For example, many modern clinics use surgical robots and endoscopes for delicate procedures such as neurosurgery or gastrointestinal surgery. Taken a step further, such systems can be used for what is referred to as telemedicine, including remote diagnosis and remote surgery. Whereas traditionally a patient had to travel thousands of miles to visit a specialized surgeon, many surgeries can now be performed remotely, reducing the strain on the patient and potentially saving precious time. Further, telemedicine applications can be used for

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remote locations, battlefields, or even prisons, reducing costs for transporting patients and improving care.

Just as physicians, insurance companies, and healthcare providers are turning to information systems to improve business processes and better serve patients' needs, consumers are increasingly using the Internet for health information. For example, WebMD is one of the most popular websites providing health-related information, priding itself on having high-quality, timely, and unbiased information. In addition to objective information, people use social media to obtain information beyond what's published by the experts. Specifically, people seeking physician and hospital rankings or recommendations frequent blogs, health-related discussion forums, or review sites such as RateMDs (ratemds.com) or Angie's List (angieslist.com). Further, major search engines such as Microsoft's Bing are constantly refining their search algorithms to provide the most relevant information to health-related queries. Another important trend is the use of personal sensors, devices, and services to keep track of a variety of things about your health and well-being. For example, there are numerous products to help you quantify various aspects of your life, from Wi-Fi-connected body scales and fitness trackers to mood monitoring, blood testing, sleep monitoring, and even DNA sequencing. The Internet of Things is playing a huge role in fueling various aspects of the quantified self, a movement to incorporate data acquisition on various aspects of a person's daily life in order to chart self-improvement and other objectives. These and other data sources throughout the digital world are creating massive amounts of data that can be used by researchers to better understand various health-related issues. Likewise, doctors and hospitals are increasingly using loT-enabled healthcare devices, and healthcare providers are using data analytics for everything from researching drug interactions to monitoring healthcare costs, quality of service, and effectiveness of treatments. Needless to say, Big Data and analytics are transforming the healthcare industry.

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Regardless of whether you're visiting your doctor about a condition or for a routine checkup or if you need more information about what your doctor is telling you, various information systems are likely to play a major role.
[Source: Information Today, page 288]

QUESTION 1

(a) Provide **THREE (3)** benefits and **THREE (3)** drawbacks of online medical records. (18 marks)

(b) Computer-aided diagnosis can replace years of experience, providing opportunities for young, inexperienced physicians. Contrast the benefits and drawbacks for the patients and the physicians. (18 marks)

(c) Will there be a place for physicians without computer skills in the future? Why or why not? (9 marks)

(Total: 45 marks)

End of Paper